

Claims

1. Gantry axle comprising a driven differential gear unit which is connected via axle shafts (1) and via a respective gantry transmission with each vehicle wheel wherein the vehicle wheel is rotatable around an axis of rotation (12) and stands up on a soil (11), wherein in each gantry transmission one output spur gear (2) driven by the axle shaft (1) is operatively connected with a first intermediate spur gear (3) and the first intermediate spur gear (3) is non-rotatably connected with a second intermediate spur gear (4) and both intermediate spur gears (3, 4) rotate around an axis of rotation (9), wherein said second intermediate spur gear (4) is operatively connected with an output spur gear (5) which is connected with the vehicle wheel and rotates around the axis of rotation (12) of the vehicle wheel, characterized in that a vertical distance (15) of said axis of rotation (10) of said input spur gear (2) to said ground (11) is smaller than a vertical distance (17) of said axis of rotation (9) of said intermediate spur gear (3, 4) to said ground (11) and is smaller than a vertical distance (18) of said axis of rotation (12) of said output gear (5) to said ground (11).

2. Gantry axle according to claim 1, characterized in that said axis of rotation (10) of said input spur gear (2) is spaced from said axis of rotation (9) of said intermediate spur gear (3, 4) and said axis of rotation (9) of said intermediate spur gear (3, 4) is situated spaced from said axis of rotation (12) of said output spur gear (5).

3. Gantry axle according to claim 1, characterized in that said spur gears (2, 3, 4, 5) of said gantry transmission are designed with helical cut teeth.

4. Gantry axle according to claim 1, characterized in that the sloping angles of said helical toothing of said first and of said second intermediate spur gears (3, 4) are designed so that the axial forces of said first and of said second intermediate spur gears (3, 4) almost neutralize themselves.

5. Gantry axle according to claim 1, characterized in that spring carriers which connect said gantry axle with a vehicle chassis are connected with said gantry transmission.

6. Gantry axle according to claim 1, characterized in that said axle shaft (1) is situated on an upper inner limit of an axle bridge.

7. Gantry axle according to claim 1, characterized in that said input spur gear (2) is mounted in a housing of said gantry transmission.

8. Gantry axle according to claim 1, characterized in that a ratio between said input spur gear (2) and said first intermediate spur gear is in the 2.2 range.

9. Gantry axle according to claim 1, characterized in that a ratio between said second intermediate spur gear (4) and said output spur gear (5) is in the 1.8 range.

10. Gantry axle according to claim 1, characterized in that the horizontal spacing between said axis of rotation (12) of said output spur gear (5) and said axis of rotation (10) of said input spur gear (2) is in the 189 mm range and the vertical distance between said axis of rotation (12) of said output spur gear (5) and said axis of rotation (10) of said input spur gear (2) is in the 30 mm range.

11. Gantry axle according to claim 1, characterized in that an axle bridge is situated offset in travel direction relative to said axis of rotation (12) of the vehicle wheel.